# Microwave Radiometer Daily Operating Procedure

## I. Purpose:

This document describes the daily maintenance and checks performed on the microwave radiometer at the Tropical Western Pacific site.

## II. Cautions and Hazards:

- Do not press on the white Teflon® window cover; it will rip.

## III. Requirements:

- Spray bottle filled with de-mineralized water.
- Soft, lint-free towels.

## IV. Procedure:

### A. Steps:

1. Inspect the white Teflon® window cover for damage such as cuts, gouges, or holes. If the window is damaged, complete the site operations log and indicate type of damage; enter the time and date on the site operations log.
2. If water is standing on the Teflon window due to rain or dew, gently brush the water off using a soft, lint-free towel; note this action in the site operations log.

   **Note:** It is not necessary to completely dry the window because the heated blower will dry it.
3. If the Teflon® window cover is dirty, wet it with distilled water from the spray bottle. If it is not dirty, proceed to step 6.
4. Wipe the window gently with soft paper towels; the Teflon cover does not need to be completely dry because the heater/blower will dry the rest.

   **Note:** Do not press on the window cover; it will rip.
5. Repeat steps 1 and 2 of these procedures until the window is clean.
6. Check the functioning of the dew blower/heater fan.

**Note:** The blower should always run while the radiometer is turned on; if it is not, report this observation in the site operations log.

- Lightly touch the dew sensor on top of the microwave radiometer.
- Did a red LED (Light Emitting Diode) used to indicate that the heater is functioning turn on? Check "yes" or "no" on the checklist.

7. Check the functioning of the elevation mirror:

- Listen to the elevation mirror turn inside the microwave radiometer; count the number of turns it makes per minute.
- Did you hear six turns per minute? Check "yes" or "no" on the checklist. (If you hear six turns per minute, the mirror is working.)

8. If the sensing element is dry and it is not raining or foggy, the heater in the blower housing should be **OFF**. This can be checked by looking at the green LED on the blower assembly. If the heater is **ON**, the moisture detector may need adjusting. Refer to the diagnostic procedure on Moisture Diagnostic Procedures, **PRO(MWR)-003.**
9. Similarly, if the sensing element is wet and humidity is near 100%, the LED on the blower housing should be **ON**; check this by looking at the green LED on the blower assembly. If the heater is **OFF**, the moisture detector may need adjusting. Refer to the diagnostic procedure on MWR Blower/Heater Diagnostics, **PRO(MWR)-002.**
10. Note the time of the cleanings and checks on the checklist.
11. Record the date, start time, end time, and any comments on the site operations form.

## V. References:

1. **"**Instrument Operation and Maintenance Procedure Development Checklist," by J. Liljegren.

## VI. Attachments:

None.